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EXAMINER

LEWIS, MONICA

ART UNIT PAPER NUMBER

2822

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/939,457

Applicant(s)

IKEGAMI ET AL.

Examiner

Monica Lewis

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

1. This office action is in response to the election filed August 29, 2002.

Election/Restrictions

2. Applicant's election of Group I in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered (See Specification Page 2 Line 12).

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the printed circuit board must be shown or the feature(s) canceled from the claim(s) (See Claims 2-4). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by *Thin Film Microelectrode Arrays for Electrochemical Biosensors* by Novotny et al. (1999).

In regards to claim 1, Novotny et al. ("Novotny") discloses the following:

a) a semiconductor chip having a plurality of film electrodes on a rear surface of said semiconductor chip and a plurality of protruding electrodes on a front surface of said semiconductor chip, an insulator resin film covering said semiconductor chip while exposing said film electrodes and a top portion of each of said protruding electrodes, and a conductive film formed on said top portion of said protruding electrodes and configured as a plurality of interconnect lines (See Figure 3 and Figure 4).

In regards to claim 5, Novotny discloses the following:

a) a portion of a side surface of said semiconductor chip is exposed from said insulator resin film (See Figure 3 and Figure 4).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Thin Film Microelectrode Arrays for Electrochemical Biosensors* by Novotny et al. (1999) in view of Applicant's Prior Art.

In regards to claim 2, Novotny fails to disclose the following:

a) semiconductor chip is mounted on a printed circuit board, with said rear surface opposing said printed circuit board.

However, Applicant's Prior Art discloses a chip mounted on a printed circuit board (See Specification Page 2 Line 25 and Page 3 Lines 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Novotny to include a printed circuit board as disclosed in Applicant's Prior Art because it aids in the formation of a complete circuit.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Thin Film Microelectrode Arrays for Electrochemical Biosensors* by Novotny et al. (1999).

In regards to claim 3, Novotny fails to disclose the following:

a) interconnect lines are connected to respective terminals of the printed circuit board by wire bonding.

However, the limitation of "wire bonding" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

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A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Thin Film Microelectrode Arrays for Electrochemical Biosensors* by Novotny et al. (1999) in view of Derouiche (U.S. Patent No. 5,754,405).

In regards to claim 4, Novotny fails to disclose the following:

a) protruding electrodes has a base portion having a diameter larger than other portion thereof, and said semiconductor chip is sandwiched between a pair of printed circuit boards.

However, Derouiche discloses printed circuit boards with a chip mounted between (See Figure 7c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Novotny to include a printed circuit board as disclosed in Derouiche because it aids in the formation of a complete circuit.

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Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 703-305-3743.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 703-308-4940. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

September 28, 2002


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
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